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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,606	03/21/2001	Hiroyuki Osakabe	4041J-000368	3028

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EXAMINER

PATEL, NIHIR B

ART UNIT PAPER NUMBER

3743

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/813,606

Applicant(s)

OSAKABE, HIROYUKI

Examiner

Nihir Patel

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 4 through 6, 8 through 10, and 14 through 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 11-13, and 22 through 25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the sixth species or the embodiment of figures 10 through 22 is acknowledged. Applicant has identified claims 1 through 3, 7, 11 through 13, and 22 through 25 as reading on the elected sixth species and as claim 1 being generic. The applicant's request that the non-elected claims be held in abeyance for possible rejoinder and/or further prosecution in future divisional and/or continuation application has been acknowledged and granted by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 through 3, 7, 11 through 13, and 22 through 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Referring to claim 1, there is insufficient antecedent basis for limitations "the boiling cooler", "the refrigerant vapor", and "a heating element".

Referring to claim 2, there is insufficient antecedent basis for limitations "the heat exchange part", "the refrigerant vapor", "the coolant", "the coolant passage", and "the vapor passage".

Referring to claim 3, there is insufficient antecedent basis for limitations "the vapor passage", "the liquid surface", and "the tank".

Art Unit: 3743

Referring to claim 7, there is insufficient antecedent basis for limitations “the coolant”, “the coolant passage”, and “the coolant circuit”.

Referring to claim 11, there is insufficient antecedent basis for limitations “the boiling cooler”.

Referring to claim 12, there is insufficient antecedent basis for limitations “the liquid refrigerant”, “the heating element”, “the refrigerant vessel”, “the refrigerant vapor”, “the vapor outflow passage”, “the heat exchange part”, and “the coolant”.

Referring to claim 13, there is insufficient antecedent basis for limitations “the vapor outflow passage”, “the heat exchange part”, “the refrigerant vapor”, “the coolant”, and “the refrigerant vessel”.

Referring to claim 22, there is insufficient antecedent basis for limitations “the refrigerant vapor”, “the boiling cooler”, “the coolant”, and “the radiator”.

Referring to claim 23, there is insufficient antecedent basis for limitations “the boiling cooler”, “the radiator”, “the coolant”, and “the motor”.

Referring to claim 24, there is insufficient antecedent basis for limitations “the radiator” and “the coolant”.

Referring to claim 25, there is insufficient antecedent basis for limitations “the radiator”, “the boiling cooler”, and “the coolant”.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,3, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagakabe Patent No. JP02000022377A. Referring to claim 1, Nagakabe discloses a boiling cooler that comprises a heat exchange part in which refrigerant vapor performs heat exchange with coolant, the refrigerant vapor being produced from liquid refrigerant that is boiled and gasified by heat transferred from a heating element (2). Refer to figure 2, page 2 and paragraph 0013.

Referring to claim 2, Nagakabe shows that the heat exchange part defines therein a vapor passage in which the refrigerant vapor flows, and a coolant passage in which the coolant flows to perform the heat exchange with the refrigerant vapor, the coolant passage adjoining the vapor passage. Refer to figure 2.

Referring to claim 3, Nagakabe's invention further comprises a tank (8) defining a refrigerant chamber (8) for storing the liquid refrigerant therein with a liquid surface, wherein the vapor passage is provided above the liquid surface inside the tank (8). Refer to figure 2.

Referring to claim 11, Nagakabe states that the boiling cooler is used for a vehicle. Refer to page 1 paragraph 0004.

Referring to claim 13, Nagakabe shows that the first radiator (4) has a lower tank (13) communicating with the vapor outflow passage through the first outlet portion, and the heat

Art Unit: 3743

exchange part disposed above the lower tank; in the heat exchange part, the refrigerant vapor is liquefied as condensate by the heat exchange with the coolant; the refrigerant vessel has a liquid return passage (9) into which the condensate flows from the heat exchange part, the liquid return passage (9) communicating with the vapor outflow passage through the lower tank (13) of the first radiator (4). Refer to figure 2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakabe Patent No. JP02000022377A in view of Inoue U.S. Patent No. 6,016,966.

Nagakabe discloses the applicant's invention as claimed with the exception of providing a pump to circulate the coolant in the coolant passage.

Inoue discloses an air conditioning system for automotive vehicles that does provide a pump to circulate the coolant in the coolant passage. Therefore it would be obvious to modify Nagakabe's invention by providing a pump to circulate the coolant in the coolant passage in order to circulate the coolant quicker.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakabe Patent No. JP02000022377A in view of Benedict U.S. Patent No. 5,421,169.

Nagakabe discloses the applicant's invention as claimed with the exception of providing first and second radiators.

Application/Control Number: 09/813,606
Art Unit: 3743

Benedict discloses an air conditioning apparatus especially for an electric vehicle that does provide first and second radiators. Therefore it would be obvious to modify Nagakabe's invention by providing first and second radiators in order to cool the liquid quicker.

Claims 22 through 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakabe Patent No. JP02000022377A in view of Iritani et al. U.S. Patent No. 5,983,652.

Nagakabe discloses the applicant's invention as claimed with the exception of providing a motor that is connected to the boiling cooler in series for supplying the coolant from the radiator to the boiling cooler.

Iritani discloses an automotive air conditioner having condenser and evaporator provided within air duct that does provide a motor that is connected to the boiling cooler in series for supplying the coolant from the radiator to the boiling cooler. Therefore it would be obvious to modify Nagakabe's invention by providing a motor that is connected to the boiling cooler in series for supplying the coolant from the radiator to the boiling cooler so that the coolant can be delivered faster.

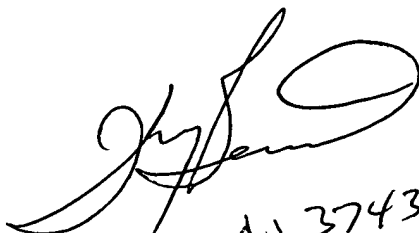
Art Unit: 3743

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
July 29, 2002



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